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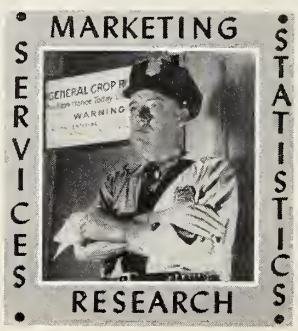

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The Market for Cotton Linters

by Proctor Campbell and Richard Hall

COTTON linters, the fuzz left on cottonseed after the first ginning, have become an important fiber in many American industries. Linters are used in a wide variety of products—automobile seats, bedding, rayon, writing paper, and even sausage casings.

Recently, Agricultural Marketing Service economists took a look at the market potential for cotton linters. They wanted to know what characteristics were required for each specific outlet and what type of technological research would improve the quality of linters for each market.

In the years 1954 through 1957, the marketing situation for cotton linters was good. More linters were used than were produced. Dealers had to dip into "extra" supplies from previous high-production years to fill customer orders and even to import larger quantities of felting linters from abroad.

The demand for felting linters depends to a large extent upon sales of bedding, furniture, and automobiles. Utilization of chemical linters is influenced by the competition received from dissolving wood pulp.

Chemical linters are used in rayon and acetate fibers, plastics, and explosives. This material has an edge over wood pulp where high tenacity or exceptional clarity is needed in the end product. If linters and dissolving wood pulp are offered at competitive prices, linters are more likely to be used. But if the price of linters is high, manufacturers are willing to substitute wood pulp for linters to lower material costs.

Certain domestic market outlets for chemical linters have been lost to wood pulp because of continual improvements in the quality of cellulose from wood pulp and because of the wide price fluctuations of chemical linters. Once markets are lost, they are hard to recapture.

One of the most promising market outlets for linters is the paper industry. Already some linters are being used in the manufacture of rag-content writing paper, but up to 60 percent of the total cotton fiber in this paper could be composed of linters. There is, however, one difficulty—technological improvements must first be made to increase the strength of linters. If this were done, sales to paper companies could rise another 80,000 bales a year.

Linters in this country also have a good chance to increase their export market. This may seem odd in the light of increasing imports. However, note that there are two types of cotton linters—one for chemical uses and one for felting. They are of different staple lengths and, by and large, do not compete with each other. Felting linters account for most of the imports into the United States. Most of our increased exports will be chemical linters.

But before new markets can be obtained or old ones expanded, the product must meet the quality standards set by the various manufacturing industries. Felting users would like a large volume of linters with more staple and harsher character. Cleanliness is desired by chemical users.

If the quality of the linters is satisfactory, price then is the only factor that might determine the amount of linters used.

For chemical linters, the price probably will remain about the same for the next few years. The price of dissolving wood pulp, linters' main competitor in the chemical market, has not changed in recent years and does not seem likely to change in the years just ahead. So, the chances are slight that linters for chemical use will, in the near future, sell for much more than they do now.

It's another story for linters used in felting. In this field there are few competitors, and prices may fluctuate some.

A more detailed account of the AMS research will be published soon. For a free copy, write to the Office of Information, USDA, Washington 25, D. C.

The authors are agricultural economists in the Marketing Research Division of AMS.

GOODBY TO THE LUNCH PAIL

FOOD SERVICES in *Manufacturing Plants*

by Esther S. Hochstim and Rosalind C. Lifquist

THE LUNCH PAIL may soon join the Model T as a symbol of bygone days and habits. And, as the homemade lunch goes out, another service of the food industry is expanded.

According to the Agricultural Marketing Service, more and more manufacturing firms are providing eating places within their own plants.

During a four-week survey made in January-February 1956, factory lunch rooms and cafeterias purchased $20 million worth of food. About half of all plants with 250 or more employees provided some type of eating service for their workers.

This group of plants employs about two-thirds of all the people in the manufacturing trade. So, about a third of the country's manufacturing workers are provided with some sort of lunch service where they work.

Company executives in plants without food service felt they had adequate public eating places nearby (lunch counters or restaurants) as well as vending machines within the plants. Some workers ate at these places, but most brought their lunches from home.

In plants providing their own feeding facilities, accommodations ranged all the way from the stately executive dining room to the more modest restaurants, cafeterias, and lunch rooms. The survey also included canteens and mobile food carts.

One thing these services all had in common: They served some hot food other than beverages.

Vending machines weren't counted as food services even when they dispensed hot foods and drinks. However, 9 out of 10 plants provided vending machines. Almost all of these plants had beverage machines; more than half had food machines; and about a third had machines stocked with milk.

There are many reasons for the increased number of inplant eating facilities. Not the least of these is management's concern for employee morale. Also, many factories have moved out of town, away from public eating places, or have outgrown the capacity of local restaurants and cafeterias.

Company food services gained further momentum during World War II when women went to work in numbers and there was less time to prepare lunches for employed members of the family. Increased family incomes also helped to change our habits of eating. By the end of the war, eating out had become an everyday event instead of a luxury for many people.

As AMS researchers point out, public restaurants, cafeterias, and lunch

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The authors are staff members of the Marketing Research Division of AMS. Both have recently had reports published on employee food services. Mrs. Hochstim is the author of MRR-325, "Employee Food Services in Manufacturing Plants." Miss Lifquist's report, MRR-326, is entitled "Buying Practices and Food Use by Employee Food Services in Manufacturing Plants."

counters are still the major institutional market for food. But food services for employees in manufacturing plants offer an additional and expanding outlet.

Whether a plant serves meals or not depends partly upon its location and size. The survey showed that 7 out of every 10 plants with food services were in the North Central and Northeastern regions, which are the most highly industrialized parts of the country. Throughout the Nation, the big factories were far more likely to offer a hot lunch than were smaller ones.

Nearly two-thirds of the factory lunch rooms were managed by outside catering firms, usually as independent businesses; about a third were run by plant personnel. But no matter who ran the eating places, most of them were subsidized to some extent. Some companies made direct cash payments to make up differences between costs and income (particularly for services they ran themselves), and others simply didn't charge for such operating expenses as rent, utilities, or maintenance.

Lunch, of course, was the big meal, but many of the eating places were open for other meals, too. A few plants had food service around the clock.

Wholesalers supply factories

Most of the factory lunch rooms were supplied by wholesalers, with a single firm frequently providing all of one commodity. Retailers were important mainly to supply the small plants.

All in all, food service managers were well pleased with the goods and services they were getting from their suppliers. The few criticisms that were made centered on quality, delivery, and price factors.

Eating places usually bought their food as they needed it—some on a day-to-day basis; others to last about a week. However, canned foods usually were stocked in quantities that would last, on the average, about a month.

Meat, dairy, and bakery products took 59 cents of each dollar spent for food in the plants. Beverages accounted for 12 cents, and fruits and vegetables together averaged another 12 cents. Fats, oils, sweets, and other foods required the rest of the money. This dollar breakdown was pretty much the same regardless of the size of the plant or its location.

Most of the plants bought their meat fresh and as retail cuts—steaks, chops, roasts, and stewing and ground meat. Across the country, plants spent 80 cents of their meat dollar on beef and pork, but this varied somewhat regionally.

Purchases of poultry, fish, and eggs each only amounted to about 2 cents of the food dollar.

Fluid milk a major item

Dairy products were among the more important purchases. Not counting butter, they amounted to 22 cents of the food dollar, with fluid milk taking most of this money. Ice cream was another major item in the dairy bill, while cheese and other processed dairy products were much less important.

Nearly all of the factory eating places bought baked goods, although about 4 out of every 10 plants produced some of their own cakes, pies, and quick breads.

Inplant food services were noticeably behind homemakers in their purchases of fruits. Factory lunch rooms spent about 3.5 percent of their food dollar on fruits, while the homemaker (according to a survey taken just a few months earlier) was spending 8 percent of her money for fruits.

Vegetable purchases averaged more than twice as much as fruit expenditures. Canned goods accounted for the largest share of the money spent for fruits and vegetables. Fresh produce came next in purchase preference, with frozen items purchased much less often.

Top beverages were coffee and soft drinks. Among the soft drinks, more was spent on cola-type drinks than for all other kinds together.

The eating places not only bought food, they also bought labor in the form of "serviced" foods. Aside from such standard items as canned foods and ice cream, the factories bought portion-sized meats, prepeeled potatoes, prepared flour mixes, and many other convenience foods. Some even went so far as to buy their food completely prepared off the premises, serving it from mobile food carts.

About 8 out of 10 of the food managers interviewed found some advantage in using partially prepared foods. Some 6 in 10 saw certain disadvantages in their use. On the whole, convenience foods found more favor in large plants than in small ones.

The major advantages pointed out by plant executives were that partially prepared foods took less time and work and had less waste. Drawbacks, they said, were high price, low quality in general, and, more specifically, poor flavor and texture.

Weighing the good and the bad, most plant executives gave food services a vote of confidence. Major complaints were the cost of running the eating places and the additional administrative problems.

These and other disadvantages, however, aren't important enough to offset the many advantages of on-premise food service. None of the company managers interviewed had any intention of discontinuing the service, and practically all of them said that if they had it to do over again, they would set up food services for their employees.

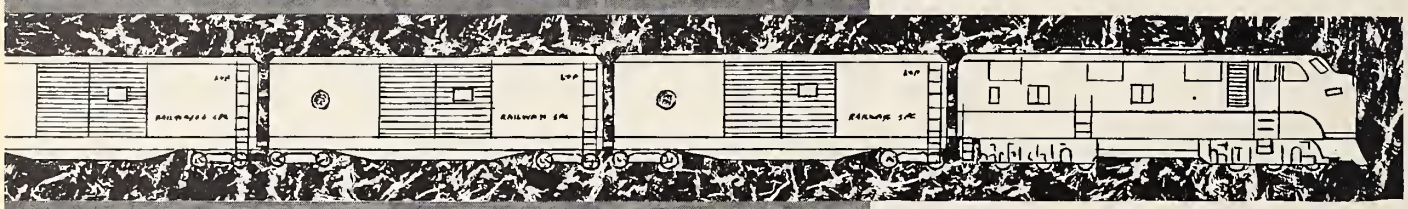
Food services boost morale

Executives in firms offering food services consider them a morale booster and employee benefit. Lunch rooms, they said, provide more healthful and less expensive meals than the employees could get otherwise, and they give the workers a chance to get together socially.

As far as the company is concerned, a shorter lunch period within the plant saves production time. Some executives even felt it "improved production."

In any event, this new version of the lunch box is an important part of the country's "away from home" eating pattern. The factory lunch room, snack bar, and cafeteria seem to be here to stay.

HEAVIER LOADING CUTS TRANSPORTATION COSTS



by Philip L. Breakiron

A CHANGE in railroad tariffs, which permits heavier loading of certain fresh fruits and vegetables, is helping to lower food transportation costs. Savings are derived from the lower per-package freight and refrigeration costs which result from putting more packages in each car.

This change in freight rates and tariff regulations applies to fruit and vegetable shipments from Texas, the Southeast, and the West Coast to markets in the North and East. It provides lower rates for heavier loads moving over established routes or a flat per car rate regardless of the number of containers loaded.

In addition, the costs of other services, such as refrigeration and heating, are lower when assessed on a per-car basis. Shippers who fill a car with a maximum number of containers can save as much as 45 percent on some commodities.

Heavier loading requires less switching and less empty car mileage. And, the weight of the refrigerator car is less in proportion to the net weight of the load.

Bigger loads, however, mean somewhat bigger risks—to the shippers, the carriers, and the receivers. More heavily loaded fruits and vegetables are somewhat more likely to be damaged en route, and any unfavorable price change that occurs during transit affects a much larger quantity of perishable products.

To offset these risks, those who handle fresh fruits and vegetables should know how to get the maximum economic benefits from heavier loading and at the same time safeguard their products and meet market price fluctuations.

According to the Agricultural Marketing Service, only a good-quality product should be shipped in a heavy load. Commodities should be packed in sturdy containers capable of withstanding the overhead weight of the load as well as the usual transportation hazards.

The shipper must specify adequate protective service for those commodities requiring it. Circuitous routing and "holding for market" should be avoided. In periods of light supply, the shipper should look into the possibilities of pooling supplies with neighboring shippers in order to make up a heavier loaded shipment.

Railroads should furnish, for these heavier loads, late model refrigerator cars in good physical and mechanical condition. Many have already installed improved floor racks, sidewall flues, and air circulation fans. Future plans include adjustable partitions, or other load separating devices, which will help protect heavier and mixed loads during transit.

Transit time has been reduced on perishable shipments from some of the main shipping areas, including those from the West Coast to eastern markets.

The possibility of further reducing transit time should also be explored, because faster movement means better utilization of cars and longer shelf-life for the products transported.

At the receiver's end, buying must be scheduled to provide for prompt unloading and distribution of the heavier loads. Loads should be "stepped down" to prevent damage after each partial unloading.

If cars must be held on team tracks for a time, their ice supply should be checked and replenished as needed.

With the increased use of heavier loads, new problems will present themselves to the shipper, carrier, and receiver of produce. There probably will be an increased demand for larger cars and for those equipped with automatic temperature controls.

The refrigerator car lines and the delivering carriers may expect some increase in car detention, especially for the heavier shipments unloaded over a period of several days on team tracks. The smaller number of cars needed to move a given quantity of commodities may, however, offset the increased holding period.

The author is a staff member of the Marketing Research Division of AMS.

Measuring
THE SMUT CONTENT OF WHEAT

THE Agricultural Marketing Service has developed a fast, accurate device for measuring smut contamination in bulk wheat. It's called a "smut meter."

Using the principle of light absorption, the smut meter permits quick routine checks without fuss or muss. No washing or separation process is involved, and the entire testing operation takes only 45 seconds.

Here's how it's done.

About 100 grams of wheat are poured into a small container with clear plastic sides. The container is then placed in a compartment of the smut meter and light energy beamed through it.

However, before the light energy passes through the wheat, it is filtered so that all but the near infrared light is cut out. This, then, is the light that goes through the grain sample and is absorbed in proportion to the amount of smut present.

The remaining unabsorbed light energy goes on to a multiplier phototube, where it is measured and indicated on the panel meter. This measurement can be interpreted as the amount of smut contamination in the wheat sample.

(Measurements made on the smut meter correspond almost exactly with microscopic spore counts made on the same samples.)

The research which led to the development of the smut meter was done by Robert M. Johnson, Gerald S. Birth, and Karl H. Norris. By adapting the Rephobiospect (an instrument which measures the amount of light transmitted through whole fruits and vegetables) to the requirements of the grain industry, Norris and Birth produced the smut meter. Johnson conducted field tests to check its accuracy and efficient operation.

Converted into a fairly inexpensive portable meter, the smut meter consists of two units—one containing the light source, filter assembly, sample holders, and multiplier phototube; another housing a meter and other electronic components.

Although the most rapid method for measuring smut contamination, the smut meter is not yet available for commercial use. Several other reliable means of determining smut contamination, also developed by Johnson, are available.

One such method uses a colorimeter to measure a suspension of smut spores. Another is based on the amount of spore sedimentation in a graduated oil centrifuge tube.

A third method, the catalase activity test, determines the amount of catalase enzyme present in the sample which, in turn, indicates the smut content of the wheat sample.

Still another method measures the deposit of smut strained from a suspension onto filter paper. A photoelectric reflectance meter then records the amount of light reflecting from the smut-coated filter paper.

All of these methods are accurate and uniform. The sedimentation test, which requires about 10 minutes, is especially good. It is not, however, as well suited for large-scale testing, nor is it as quick, as the smut meter.

The smut meter offers all the advantages of the other testing methods plus the ability to handle large lots of grain. As a bonus advantage, it is able to detect internal smut infestation as well as external contamination.

THE CROP

At least twice a month in Washington, D. C., the Crop Reporting Board of AMS works behind locked and guarded doors preparing reports on products like wheat, corn, and cotton which are traded on commodity exchanges. Known as the "lockup," this security prevents leaks to speculators and gives everyone access to the reports at the same time.

Security, however, begins even before lockup day. Questionnaires are collected and compiled in strict confidence by State statisticians. Figures are airmailed, special delivery, to the Secretary of Agriculture, where they go into a double-locked mailbox.

At the lockup quarters, all window blinds are sealed shut; all phones are disconnected. Guards stand watch outside.

Behind the closed doors, the Crop Reporting Board studies the State material and comes up with official National and State figures. Copies of the report are then taken to the release room where reporters are waiting. At a signal from the release officer, the reporters dash to their individual phones to flash the news.

The crop report is thus made available to the Nation and the world.

When the official report is ready, Secretary of Agriculture Ezra Taft Benson comes into the locked quarters to sign it.

About two minutes before release time, copies of the report are placed face down on tables in each of the phone booths.

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Only authorized personnel may enter the lockup, and no one comes out until the report has been released.

State figures are reviewed by USDA Crop Reporting Board to arrive at official estimates for the States and for the Nation as a whole.

"Go!" Reporters speed to booths when release officer gives sign, as the second hand sweeps past 3 o'clock.

To save precious time, reporters have lines open so they can give production facts and figures as soon as they flip over the report.

Distributing Meat
IN THE LOS ANGELES AREA

by Raymond A. Dietrich and Willard F. Williams

THE legendary Golden Bear may capture the imagination of the people of Los Angeles, but it's beef cattle that dominate the livestock market in that area.

The increase in demand for highly finished beef, the phenomenal population growth, and the exceptionally rapid development of suburban supermarket shopping in the area have brought changes in the number, types, and business operations of packers, local suppliers, and producers.

They have also brought about the development and rapid growth of a commercial cattle feeding industry in the West. Today, Los Angeles is one of the top-10 livestock slaughter centers in the country.

An Agricultural Marketing Service study shows that California packers provided 84 percent of the meat entering the Los Angeles market in 1956. Thirty of these packers were located within the county, and these handled 78 percent of the total Los Angeles meat supply.

There were about 69 jobbers, 25 wholesalers, 10 packer branch houses, and 196 truck distributors in Los Angeles County.

The large number of truck distributors is a distinctive feature of the market. Despite their numbers, these firms handled only a small part of the area's meat supply. In terms of sales volume, they ranked below wholesalers, jobbers, and packer branch houses.

Jobbers and wholesalers in the Los Angeles area have grown both in sales and in numbers since 1939. In the period up to 1954, their sales volume quadrupled and their numbers tripled.

The number of packer branch houses, on the other hand, remained fairly stable. Their sales, however, increased considerably.

About two-thirds of the meat moved directly from the packers to the final market outlets. The remaining third passed through wholesale meat distributors of one type or another.

Another interesting feature of the Los Angeles meat marketing area was the degree and type of specialization among the handlers. Most firms specialized in one type of meat or one type of customer.

About half of the packing plants concentrated on one type of meat, and 90 percent of the sales volume of these specialized firms consisted of a particular species (beef, pork, etc.).

Relatively few hogs are produced in the West. Thus, packer branch houses specialized in pork partly because they are owned by national packers with extensive pork-packing facilities. Most of their products went to independent retailers.

Most of the wholesalers were beef specialists. They relied primarily upon independent retailers, chains, and jobbers as customers.

Jobbers and truck distributors specialized by type of customer. Jobbers supplied restaurants, while truck distributors sold exclusively to independent retailers.

More than half of the Southern California packers were integrated with commercial feedlots. They owned cattle in feedlots or owned the feedlots themselves. Packer-owned cattle, however, constituted only 15 percent of the beef heifer and steer slaughter in the area.

None of the retail grocery chains in Los Angeles indicated ownership of feedlots or had cattle on feed. Two chains owned packing facilities in 1956, but one of them later disposed of its plant.

National packers in the Los Angeles area have not adjusted as easily to changing market conditions as the independents, and their share of the market has decreased. This trend may continue. But, cured pork sales of packer branch houses and fresh sales of independent meat distributors should continue to increase.

Along with the trend toward mass specification buying will come a greater demand for Federally inspected and graded meat.

In the future, voluntary and independent retailer cooperatives could have a big effect on meat distribution in this area. These groups might well decide to purchase their meat centrally on a specification basis. The extent to which they handle perishable commodities and the type of merchandising policies they maintain will determine their share of tomorrow's market.

The authors are staff members of the Marketing Research Division of AMS.

SHIPPING BEEF IN REFRIGERATED CARS

MECHANICALLY refrigerated rail cars and truck-trailers hauled on flatcars are now being used to ship freshly killed beef to market. Tests indicate that these vehicles can hold temperatures as well as, or better than, the water-ice car traditionally used in this type of shipment.

Beef should be cooled and held at temperatures between 31° to 35° F. Unless transit temperatures are carefully controlled, the meat may lose some of its fresh appearance and good quality.

That's why transportation specialists in the Agricultural Marketing Service are interested in finding the best possible way to move freshly killed beef from slaughterhouses in the Midwest to consumers in other parts of the country.

Recently, they compared beef shipments in mechanically refrigerated rail cars and trailers-on-flatcars as they traveled from Lincoln, Nebr., to Philadelphia, Pa.

They found that the "piggyback" or trailer-on-flatcar offers a definite advantage in that it can be driven directly from the rail yard to the wholesale or retail outlet. This eliminates intermediate unloading or warehousing and lessens the chance of spoilage during transfer.

For easier servicing while still on the flatcar, "piggyback" trailers should have somewhat larger gas tanks. Most trailers now in use cannot hold enough gas to keep the refrigeration units going throughout the entire trip. Bigger tanks—of about 100-gallon capacity or two 50-gallon tanks—would save the time and labor now required for refilling en route.

Moving the temperature gage from the nose of the trailer to the side would also save a little in time and labor. As it is, crewmen checking the load have to climb up into a one-foot space between the two trailers on the flatcar to read the temperature gage. This is inconvenient and a safety hazard. Temperature gages and controls mounted on the side of the trailer would make it a lot easier for temperature checks while the trailer is on the flatcar.

Temperature tests showed that beef at the rear of the load was sometimes higher than the desired maximum of 35° F. This situation could probably be helped by ducting some of the cold air from the refrigeration unit to the rear of the trailer.

Mechanically refrigerated rail cars offer the same basic advantages as "piggybacked" trailers. When properly functioning, they are capable of maintaining the proper air and commodity temperature en route.

They also proved to be considerably more effective than water-ice cars. In a typical water-ice car which was included in the AMS research study, temperatures ran as high as 49° F., and fluctuations were greater than in any of the mechanically refrigerated cars and trailers.

The water-ice car lacked circulating fans and therefore did not have enough air movement to keep the temperature uniform throughout the load. Air circulation in this car depended entirely upon natural convection. While standing still in the yard, the car became noticeably warmer due to the lack of air circulation and the sun's heat.

Of the 15,500 refrigerated rail cars currently equipped to transport carcass beef, only about 50 have mechanical refrigeration units which operate under their own power—that is, not through the car axle.

There are at present only a small number of piggyback trailers hauling beef. However, this comparatively new type of rail-truck service may very well gain in popularity.

A complete report on the AMS study on "Rail Car and Piggyback Transportation of Freshly Killed Beef" will be issued some time this month. Single copies may be obtained without charge from the Office of Information, U. S. Department of Agriculture, Washington 25, D. C.

This study was made by Harold D. Johnson, Ronald W. Penney, and Robert F. Guilfoy. They are staff members of the Marketing Research Division of AMS.

CLASSIFIED PRICING of milk

by Edmond S. Harris

IN MANY city milk markets in the United States, the classified system of pricing has helped dairy farmers by stabilizing the level of return for their product. But this system, whereby a dealer pays different prices for milk in accordance with the use to which it is put, has some built-in limitations if applied with an objective of increasing producers' returns.

The high prices of fluid milk associated with this objective will, in time, pinch per capita consumption and cause a diversion of supplies to lower priced surplus uses with adverse effects upon the returns of producers.

These are some of the findings of a recent study by the Agricultural Marketing Service on different price policies for milk. The study is part of a broader program of USDA to improve the efficiency of the marketing processes for farm products.

In most cities, neither the prices farmers get from milk dealers nor the prices consumers pay at retail are determined by the free play of buyers and sellers in a simple competitive market. Most farmers supplying milk for sale in the larger markets are organized into cooperative associations which act as their agents in the sale of milk to dealers.

Milk dealers themselves usually act together when negotiating with producer associations on prices. In most large cities the retail prices established by the larger dealers are often followed by the entire market.

The author is a staff member of the Marketing Research Division of AMS.

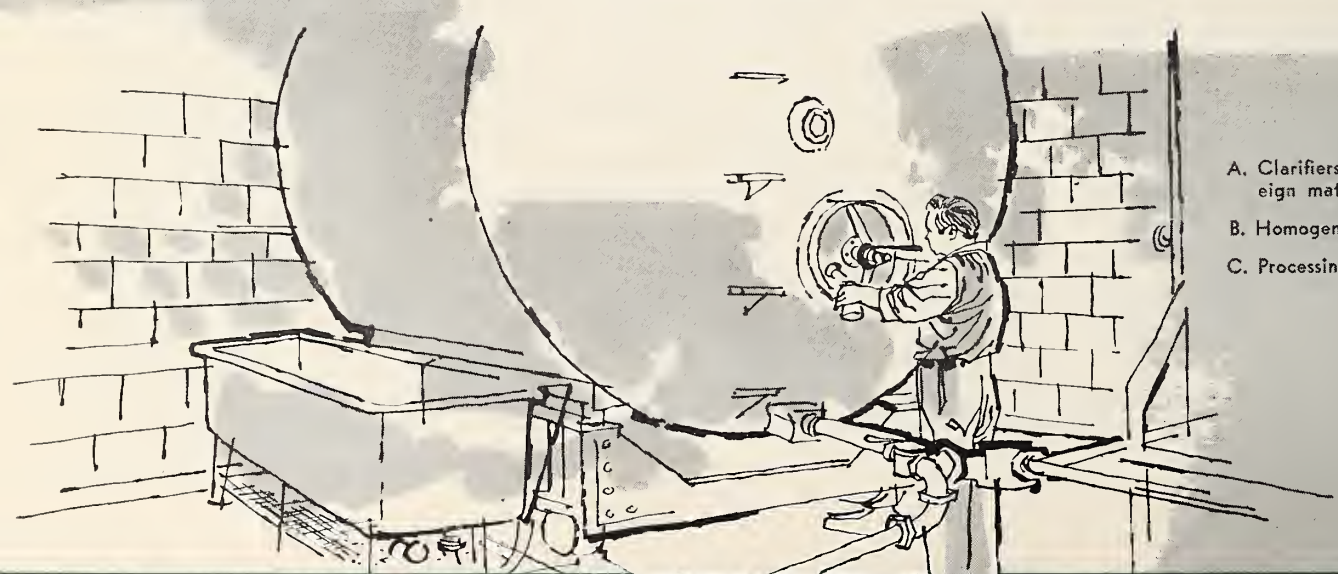
Partly because city milk markets do not provide an automatic pricing mechanism for this important and perishable product, both State and Federal Governments are acting to establish milk prices. Federal milk marketing orders establish minimum prices which dealers must pay to farmers in most of the larger city markets. The regulations of some States extend to retail as well as wholesale milk prices.

Some of the problems of milk pricing center around classified price plans. These selling plans, whose origin pre-dates governmental interest in milk prices, have today become the prevalent method by which milk producers sell their milk to dealers in city markets. Under this system, dealers pay different prices for milk in accordance with the use to which it is put. In particular, milk sold to consumers in bottles (glass or paper) is called Class I milk and is paid for at the highest price.

Milk for manufactured products

Milk used for manufacture into milk products is paid for at a lower price or prices, in line with prices in manufacturing regions where costs of production are lower.

This multiple system of pricing milk was first introduced by organized dairy farmers to strengthen their bargaining position in negotiating with dealers for the sale of their milk. When they sold milk at a single price, seasonal surpluses tended to depress the price below cost of production and in many instances some producers were temporarily cut off the market.



A. Clarifiers remove dirt, foreign matter from raw milk.

B. Homogenizers in milk plant.

C. Processing cheddar cheese.

Classified pricing is highly useful for eliminating seasonal instability of farmer's returns. When used solely for this purpose, the blend or average return to farmers from sales of milk for fluid and milk-product uses is no higher than is required to get a sufficient supply for the city market. However, it is also possible to use classified pricing to boost farmers' returns well above this level for a temporary period.

Prices raised to higher levels

To do this the Class I, or fluid use, price must be raised to higher levels. Any unsold fluid milk resulting from the higher Class I price is then used to make butter or other manufactured products—that is, diverted from the city market so that the supply and demand for fluid milk at the higher price can be kept in balance.

Because the alternative objectives of stabilizing and enhancing returns to farmers influence pricing policy in varying degrees, the Agricultural Marketing Service has studied classified pricing of milk to weigh the effects of both these price policies. A report has now been published under the title "Classified Pricing of Milk—Some Theoretical Aspects." The main conclusions of this report are here summarized.

Short-run and long-run effects of the application of classified pricing to enhance farmers' returns are distinguished in the report. Over a period of a few years or so, it is possible for a farmers' association to raise the returns of its members by raising the Class I price to artificially high levels, with diversion of more milk to lower priced manufacturing uses.

Over a long period, however, demand responses to change in milk prices are more pronounced than for a short period. The raising of the price of milk for fluid consumption may, therefore, bring a better return for a time at the expense of an ultimate loss of fluid sales which is greater than expected.

Over a period of time, the higher return will lead farmers to increase their production of milk or will cause other dairy farmers to enter the market. As the proportion of surplus rises, the blend return to producers declines to a level no higher than that required to provide a return equal to that provided by alternative employments of land, labor and capital resources. The artificially high price of Class I milk would remain but its effectiveness in increasing producers' returns would be offset primarily by a greater proportion of milk going to lower priced manufacturing uses.

Consumption down, supply up

In short, this kind of pricing would lead to: (1) A decrease in the consumption of fluid milk; (2) an increase in the total supply of milk on the market; (3) an increase in the proportion of milk going into lower-priced manufacturing uses; and (4) a loss of the temporary advantage to farmers.

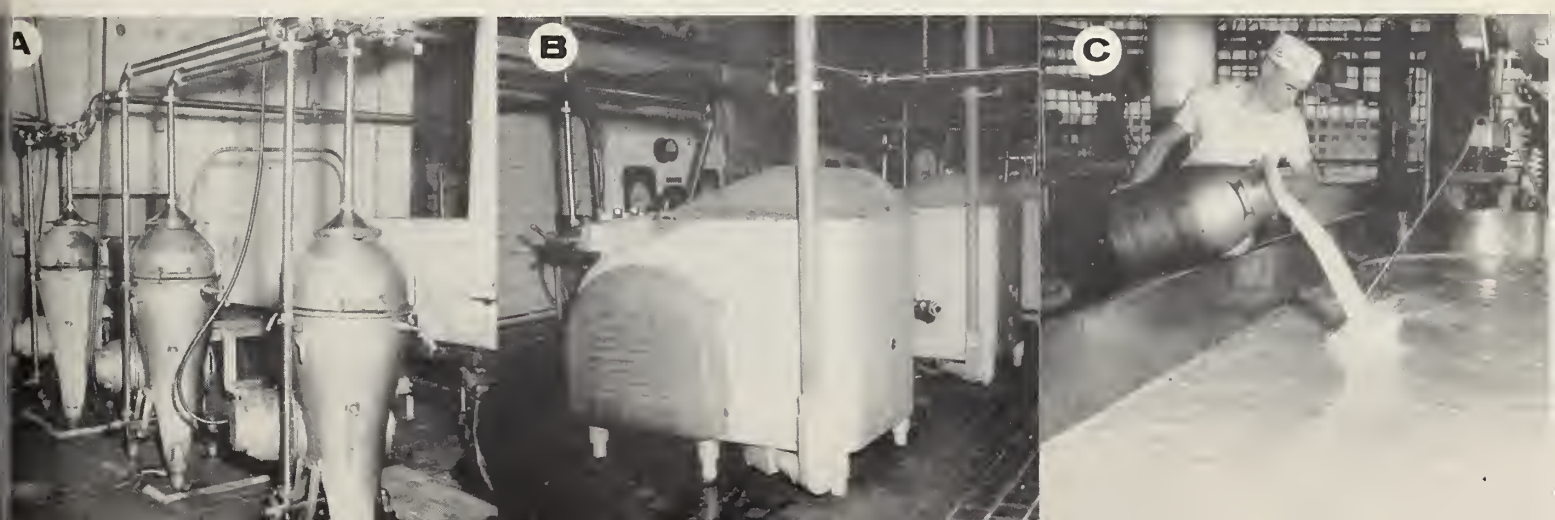
Classified pricing, if applied generally in city markets to try to raise farmers' returns above levels consistent with supplies and demand conditions, would also weaken the markets for manufactured milk products. The additional quantities of milk diverted from fluid markets would add to the supplies of milk available for the manufacture of butter, milk powder, evaporated milk and other products. This would tend to depress the prices of these products and the returns of those farmers whose primary business it is to supply milk for manufacture.

Disadvantages over long period

Two conclusions thus emerge regarding the long-period consequences of the application of classified pricing with the objective of maximizing short-run returns of milk producers supplying fluid markets. In the first place, classified pricing is not permanently effective in increasing returns to producers. Secondly, the unduly high Class I prices which may result from this type of pricing plan can cause serious disadvantages to city consumers as well as to producers who sell milk to manufacturing plants.

These conclusions indicate the problem faced by officers of producer associations, by dairy farmers, and by all those concerned with milk pricing in city milk markets.

If classified price plans are to perform their function as stabilizers of producer returns without adverse side effects from a public interest standpoint, the short-range view of pricing policy must be tempered by policies which look well into the future—pricing policies which promote the use of milk and which do not diminish the highest priced outlet available to dairy farmers.



The market for cottage cheese

by Proctor Campbell

THE mythical Miss Muffet, who sat down to curds and whey many years ago, would feel right at home in today's diet-conscious society. Americans of all ages have increased their cottage cheese consumption nearly 80 percent in the past 10 years.

People in some parts of the United States, however, eat larger quantities of cottage cheese than others. For instance, four or five times more cottage cheese is consumed per person in the Midwest than in the South.

According to a recent U. S. Department of Agriculture study, only 22 percent of the urban families in the South use cottage cheese. This is well below the 39 percent average for the Nation as a whole. It is also below the average consumption of the other regions of the country.

In the Northeast, 34 percent of the families buy cottage cheese, while in the West and North Central areas, 52 percent purchase it.

Or, to put it a little differently, urban families in the North Central area buy nearly 3½ times more cottage cheese than their Southern neighbors.

Since the big area for possible expansion of cottage cheese sales obviously lies in the South, Agricultural Marketing Service economists centered their attention on several Southern markets. Atlanta, Ga., was one of these.

According to the data obtained from the Atlanta Consumer Panel, which is operated by the Georgia Agricultural Experiment Station, income and racial groups here varied considerably in their purchases of cottage cheese. Evidently, cottage cheese was considered a luxury item rather than the economical protein supplement which it is.

Of those Atlanta families who purchased cottage cheese, 60 percent of them had incomes over $4,000 a year, but only 37 percent of the city's population fell in this income category.

On the other hand, 12 percent of the families purchasing cottage cheese were in the lowest income bracket—below $2,000 a year.

Race also proved an important factor in cottage cheese consumption. Although 62 percent of the families in Atlanta are white, 81 percent of the families buying cottage cheese were white.

The percentage of all Atlanta families buying cottage cheese in any week during the study ranged from 6 to 15 percent. This suggests a promising area for increased promotional activities to attract new buyers.

A pre-Easter promotional campaign of 6 weeks in 4 Southeastern markets proved that new buyers can be stimulated through advertising. Many of those who purchased cottage cheese during the promotional period continued to use it afterwards. Cottage cheese sales rose in some areas as high as 60 percent during the promotional period. These sales, of course, dropped off later, but usually they remained above their original levels.

So, it seems, cottage cheese responds well to sales stimulation.

Families who buy and serve cottage cheese get not only a tasty food treat, but a healthful one as well. About 12 ounces of cottage cheese supplies all of the daily protein needs of an adult. It also contains a high percentage of riboflavin and calcium, the two nutrients most likely to be lacking in the average diet.

The author is a staff member of the Marketing Research Division of AMS. Studies on cottage cheese were conducted in Atlanta, Columbus, and Albany, Ga., and Anniston, Ala., in the South and Des Moines, Iowa, Omaha, Neb., and South Bend, Ind., in the Midwest.

COSTS OF OPERATING SOUTHERN RICE MILLS

by Nicholas M. Thuroczy and Woodrow A. Schlegel

RICE, the staple crop of the Far East, is also an important crop in the United States.

Agricultural Marketing Service, as part of its program to increase marketing efficiency and reduce the price spread between the producer and consumer, studied the costs of operating rice mills in the southern part of the United States during 1956-57.

In comparing one mill with another, AMS economists saw that per unit costs hinged chiefly on the volume of rice milled and the percentage of rice packaged in retail-size containers. It made little difference how much of the mill's capacity was used or how much drying it did.

A total of 33 rice mills cooperated in the AMS study. These plants handle about 70 percent of the annual rice crop in the South—almost 25.9 million bags of rough rice.

The average plant processes 760,000 hundredweight of rough rice a year. Of this, 31 percent is dried by the mills and 18 percent of all sales are packaged and sold in retail containers. About 88 percent of all rice milled is sold through brokers.

Because of the variety of services offered and the differences in the size of the mills, per unit costs of processing and selling rice vary from plant to plant and even from day to day within a particular plant.

On the average, though, it costs a milling company about 98 cents to process 100 pounds of rough rice. (This does not include charges for transportation or the cost of the rice itself.) The annual payroll accounts for half of the total cost. Packaging materials take 21 percent, and administrative selling (excluding salaries) requires another 21 percent. Other charges—such as utilities, supplies, repairs, maintenance, depreciation, taxes, insurance, and storage—account for the balance.

Mills which do not package rice can hold their operating costs down to 73 cents per hundredweight of rough rice. In these plants, 25 cents of each dollar spent on operating costs goes into wages for production workers. Other salaries, including commissions, amount to 20 cents. The cost of bags and twine is about 18 cents, while selling and administrative expenses (excluding salaries) run about 16 cents. Utilities, maintenance, taxes, and so forth take up the remainder of the operational dollar.

Packaging rice in retail-size containers is the most costly part of the entire operation. This service alone runs about $1.47 per 100 pounds of milled rice. Sixty-eight percent of this goes for packaging materials.

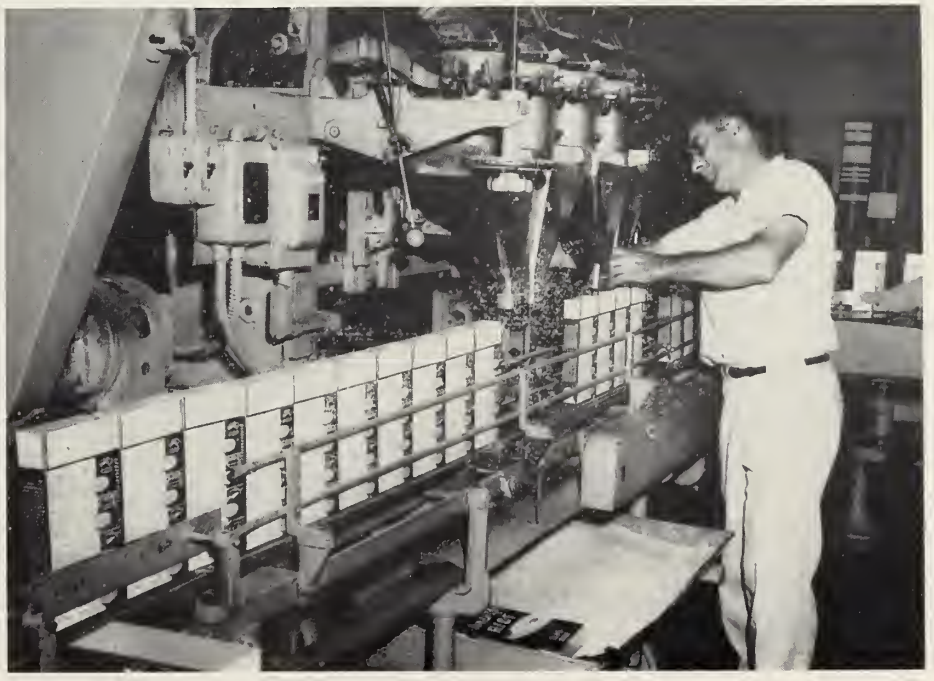
If the rice is both milled and packaged at the processing plant, administrative and selling expenses become a larger item.

One of the most variable items in the operating bill is the cost of labor. Some of this difference is the direct result of not using the plant to its fullest capacity. But even at times of peak performance, output per man hour ranged anywhere from six to twenty-four 100-pound bags of rough rice.

The AMS study, which reports more fully the operating costs of southern rice mills, offers millers a chance to compare their operations with the average costs of similar rice processors in the area. As such, it can serve as a valuable guide to the industry.

The publication, MRR-330, is scheduled for release early in July. Single copies may be obtained without charge from the Office of Information, U. S. Department of Agriculture, Washington 25, D. C.

Packaging rice in retail-size containers is most costly job performed by mills. In 1956-57, it cost $1.47 to package 100 pounds of milled rice; 68 percent of this went for packaging materials.



The authors are agricultural economists in the Marketing Research Division of AMS.

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The Changing Market

What Makes Farmers' Prices?

The Agricultural Marketing Service has put out a popularly written booklet entitled "What Makes Farmers' Prices."

Generously illustrated with charts, the publication presents in the language of the layman the economic factors behind farm prices.

For the past 30 years, the Outlook Service of the U. S. Department of Agriculture has carried on economic and statistical research in price analysis. Most of its findings have been reported in highly technical bulletins written for professional economists and statisticians.

"What Makes Farmers' Prices" brings together the more important findings of these studies and presents a long-range view of some of the "whys" behind them.

The author, Wayne V. Dexter, Secretary of the Outlook and Situation Board of the USDA, tells in simple, straightforward style the results of research on the prices of the past three decades. He points out the effect of changes in supply; what is meant by demand, how it shifts, and what effect it has on the farm market; seasonal variations in production and prices; and the relationship between marketing margins and farm prices. He also discusses the role of Government programs and pricing policies.

A free copy of the report, AIB No. 204, may be obtained from the Office of Information, U. S. Department of Agriculture, Washington 25, D. C.

The USDA Plentiful Foods list for July will feature turkeys and plums. Also on the list are ice cream, eggs, peaches, lemons and limes, summer vegetables, peanut butter, and vegetable fats and oils.

Keeping Cranberries Cool

Cranberries keep longer if kept cool. So say AMS research scientists after conducting a study on the effects of cold storage on fresh cranberries.

Findings indicate that cranberries held in cold storage maintain their quality much better and longer than those put in common storage. This is true for unscreened, as well as screened and prepacked, berries.

Cold storage cranberries showed no more spoilage after 12 weeks than common storage berries after a 2-week period.

Refrigeration also minimized weight losses. Freshly harvested fruit, when screened and prepacked, kept in cold storage for 6 weeks without requiring further rescreening.

In making their study, AMS scientists used Massachusetts-grown Howes cranberries which they stored in both cold and common storage facilities for varying periods up to 19 weeks. A temperature of 40°F. was maintained continuously in the cold storage; temperatures in the common storage varied from 40° to 60°F., depending upon seasonal outside temperatures.

Production of Sausage Products

More than 2 billion pounds of sausage products have been processed in federally inspected plants each year since 1951, according to the Agricultural Marketing Service.

These products consist of frankfurters, weiners, and other luncheon meats, as well as finished sausage, loaf, head cheese, jellied products, and various canned sausages.

So far this year, the production of all sausage products is up slightly from early 1958. Pork production during January-March ran 17 percent larger in 1959 than in 1958. As a result, output of fresh finished sausage, which is made principally from pork, increased more than most other kinds.

The recent decline in beef production, particularly of cow beef and other lower grades used for processing, has led to some replacement of beef by pork in the last few months. Cattle slaughter this year has lagged 7 percent below a year ago; cow slaughter is also down some.

This reduced supply of domestic beef has encouraged larger imports of processing beef. Imports of boneless and prepared or processed beef last year totaled more than 425 million pounds—4 times as large as in 1957. During the first three months of 1959, the U. S. Department of Agriculture inspected 132 million pounds of fresh and cured beef and veal imports, nearly double that of the same months in 1958.